



February 14, 2014

California Coastal Commission
c/o Charles Lester, Executive Director
45 Fremont Street, Suite 2000
San Francisco, CA 94105
Email: SLRGuidanceDocument@coastal.ca.gov

Re: Comments and Priorities on the Draft Sea-Level Rise Policy Guidance

Dear Charles,

The Center for Ocean Solutions¹ is grateful for the opportunity to submit comments on the *California Coastal Commission Draft Sea-Level Rise Policy Guidance* (“Draft”) dated October 14, 2013. The purpose of these comments is to provide the California Coastal Commission with specific suggestions for better preparing California’s human and ecological coastal communities for the impacts and consequences of sea-level rise, in keeping with the policies of the Coastal Act.

Recommendations to the California Coastal Commission’s Sea-level Rise Work Group

(1) Connect the Draft with California’s existing climate adaptation guidance:

The State of California has developed related and strongly aligned climate change adaptation guidance.² We commend the Commission on its efforts to make state-level guidance actionable for permit applicants and local jurisdictions within the coastal zone. The Final Draft could make the State’s pre-existing climate adaptation policy context explicit in the Executive Summary. To demonstrate the overlap between the Draft and existing state efforts on climate adaptation, wherever applicable, the recommendations that follow reference to or identify opportunities for the Final Draft to complement state and other agency guidance and legislation.

¹ The Center for Ocean Solutions (the Center) is a collaboration among the Stanford Woods Institute for the

² For example, *see* Governor’s Office of Planning and Research, Governor’s Environmental Goals and Policy Report: California @ 50 Million: California’s Climate Future (Discussion Draft 2013) [hereinafter Draft Governor’s Report]; California Natural Resources Agency, Safeguarding California: Reducing Climate Risk – An Update to the 2009 California Climate Adaptation Strategy (Public Draft 2013); California Emergency Management Agency and California Natural Resources Agency, California Adaptation Planning Guide: Planning for Adaptive Communities (2012); and California Natural Resources Agency, 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008 (2009).

- (2) **Clarify Concepts within the Principles for Addressing Sea-Level Rise in the Coastal Zone:** The Draft guidance is based on four principles derived predominantly from the Coastal Act's requirements.³ Each principle is comprised of multiple concepts raised by the challenges of sea-level rise.⁴ The Final Draft could clarify that the placement of a concept within one of the principles does not preclude overlap of that concept with other principles. For example, the third principle addresses Maximizing Protection of Public Access, Recreation, and Sensitive Coastal Resources.⁵ Concept 14, which pertains to including the **best available information on resource valuation in mitigation of coastal resource impacts**, is listed under this principle.⁶ However, this concept also applies under the first principle, pertaining to Using Science to Guide Decisions.⁷
- (3) **Explain the process for updating the best available science:** The Draft discusses how **the best available science should be used in planning and regulatory actions**, and refers to the 2012 National Research Council (NRC) Report as the current best available science.⁸ The Draft notes that the best available science will have to be updated in the future to reflect significant changes in the science of sea-level rise.⁹ The Final Draft could clarify how updates on the best available science will be distributed for uptake at the local level. For example, the Commission staff may provide updates through staff reports or briefings from scientific experts, and may rely on non-advocacy expert organizations to facilitate these and other processes.¹⁰
- (4) **Require assessment of the benefits provided by intact ecological systems:** To better align the Coastal Commission's Draft with California's goal of preserving and stewarding state lands and natural resources articulated in the *Governor's Environmental Goals and Policy Report*,¹¹ the Final Draft could require an assessment of the benefits that intact ecological systems provide to coastal communities. Guiding the agency to incorporate such assessments into Local Coastal Programs (LCPs) and Coastal Development Permits (CDPs) is consistent with a key action identified in the *Governor's Environmental Goals and Policy Report*: building resilience in natural systems.¹² The Final Draft could provide the necessary detail for how the Coastal Commission, project applicants, and local jurisdictions could use benefits assessments to advance the Governor's stewardship goal within the coastal zone.

³ California Coastal Commission, California Coastal Commission Draft Sea-Level Rise Policy Guidance 5 (2013) [hereinafter Draft Guidance].

⁴ *Id.* at 5.

⁵ *Id.* at 6.

⁶ *Id.*

⁷ *Id.* at 5.

⁸ *Id.* at 22.

⁹ *Id.* at 22-23.

¹⁰ *Id.*

¹¹ Draft Governor's Report, *supra* note 2 at 20.

¹² *Id.* at 21.

For example, intact coastal dune ecosystems and wetland habitats can attenuate wave action and provide coastal protection to coastal and inland communities.¹³ The Center for Ocean Solutions and the Natural Capital Project¹⁴ recently completed vulnerability assessments for the Greater Monterey County and the Santa Cruz Integrated Regional Water Management planning processes evaluating the role that natural coastal habitats play in providing coastal protection from sea-level rise. By assessing the opportunities and benefits that existing ecological resources provide (such as intact coastal dunes), the Coastal Commission, local planners, and individual applicants can better understand the social, economic, and ecological consequences of their permitting decisions. We suggest explicitly requiring assessment of these benefits in the following Sections of the Final Draft:

- **Section IV Addressing Sea-Level Rise in Local Coastal Programs:** The Final Draft could add another step to the Sea-Level Rise Adaptation Planning Process for new and updated Local Coastal Programs.¹⁵ By adding a benefits assessment to Figure 4¹⁶ as a new Step 3 (after “Identify potential sea-level rise impacts in LCP planning area/segment” and before “Assess risks to coastal resources and development in planning area”), local planning staff can assess the differential effects that loss of ecological resources from sea-level rise will have on a variety of sectors, including vulnerable human populations, public health, public recreation, and the economy.
- **Section V Addressing Sea-Level Rise in Coastal Development Permits:** The Final Draft could also add another step to the Steps for Addressing Sea-Level Rise in Coastal Development Permits.¹⁷ By adding a benefits assessment to Figure 6¹⁸ as a new Step 3 (after “Determine how sea-level rise impacts may constrain the project site” and before “Determine how the project may impact coastal resources over time, considering sea-level rise”), project applicants and local and Coastal Commission permitting staff can assess how sea-level rise will affect the benefits provided by existing resources.

¹³ Katie K. Arkema, Greg Guannel, Gregory Verutes, Spencer A. Wood, Anne Guerry, Mary Ruckelshaus, Peter Kareiva, Martin Lacayo & Jessica M. Silver, *Coastal habitats shield people and property from sea-level rise and storms*, 3 Nature Climate Change 913, 913-918 (October 2013).

¹⁴ The Natural Capital Project is a partnership among Stanford University, The Nature Conservancy, the World Wildlife Fund, and the University of Minnesota. The Natural Capital Project aims to integrate the values of nature into all major decisions affecting the environment and human well-being. The Center for Ocean Solutions and the Natural Capital Project are collaborating in California to engage with coastal planners to translate the benefits of natural infrastructure in climate adaptation planning contexts.

¹⁵ Draft Guidance at 37-64.

¹⁶ *Id.* at 38.

¹⁷ *Id.* at 67-85.

¹⁸ *Id.* at 81.

- **Section VI Additional Research Needs:** Further research to understand and value the benefits intact coastal systems provide should be included as a research need in the Final Draft.¹⁹ As noted, analyses of the role natural habitats play in coastal protection have already been completed for the Greater Monterey County and Santa Cruz Integrated Regional Water Management planning processes.²⁰ This research would also help to advance other research needs identified in the Draft, including Research Needs 3, 4, and 5.²¹

(5) Incorporate human systems into assessment of risks from sea-level rise to coastal resources and development in LCP planning areas/segments: Step 3 of the Draft’s process to address sea-level rise in local coastal programs involves assessing the potential risks from sea-level rise to coastal resources and development in the LCP planning area/segment.²² As sea levels rise, the severity of more damaging storms will increase—particularly for communities directly adjacent to the coast.²³ In addition to considering existing and planned development, the Final Draft could call for consideration of the human populations and social and economic systems that are or will be impacted by sea-level rise. This would align with the goal of building healthy and sustainable communities in the *Governor’s Environmental Goals and Policy Report*.²⁴ Key actions identified in the *Governor’s Environmental Goals and Policy Report* include developing “plans to help communities manage planned retreat from rising sea levels,” and supporting and investing in active transportation projects, such as the coastal trail system.²⁵ The Draft’s guidance regarding adaptation strategies and existing work on the California Coastal Trail advance these goals. However, information on how and when to assess sea-level rise impacts to human systems should be explicitly included in Step 3 of the Final Draft’s process for LCPs. The Department of Water Resources’ published guidance on analyzing adaptive capacity and considering disadvantaged communities is a replicable example.²⁶ The analysis of the role natural habitats play in coastal planning processes completed for the Santa Cruz Integrated Regional Water Management

¹⁹ *Id.* at 86-87.

²⁰ Katie Arkema, Meg Caldwell, Anne Guerri, Eric Hartge, Suzanne Langridge, Erin Prahler, Mary Ruckelshaus & Gregg Verutes, *The Role of Natural Habitat in Coastal Vulnerability and Adaptation Planning within the Greater Monterey County Region* (2012) (available as app. K in *Integrated Regional Water Management Plan for the Greater Monterey County Region* (2013)); Suzanne Langridge, Eric Hartge, Erin Prahler, Meg Caldwell, Mary Ruckelshaus & Anne Guerri, *The Role of Natural Habitat in Coastal Vulnerability and Adaptation Planning within the Santa Cruz Region* (prepared for the Santa Cruz Integrated Regional Water Management Plan and on file with the Center for Ocean Solutions) (2013).

²¹ *Draft Guidance* at 86-87.

²² *Id.* at 43.

²³ Margaret R. Caldwell, Eric H. Hartge, Lesley C. Ewing, Ryan P. Kelly, Susanne C. Moser, Sarah G. Newkirk, Rebecca A. Smyth, C. Brock Woodson, *Coastal Issues, in Southwest Climate Alliance, Assessment of Climate Change in the Southwest United States: A Report Prepared for the National Climate Assessment* 168, 168-196 (Gregg Garfin, Angela Jardine, Robert Merideth, Mary Black & Sarah LeRoy, eds., Washington, DC, Island Press, 2013).

²⁴ *Draft Governor’s Report* at 26.

²⁵ *Id.* at 27.

²⁶ U.S. Environmental Protection Agency Region 9 and California Department of Water Resources, *Climate Change Handbook for Regional Water Planning* 47 (2011).

planning process²⁷ applied the Department of Water Resources guidance²⁸ to consider the potential consequences of alternative management decisions on disadvantaged communities.

(6) Investigate opportunities for regional mitigation: The Draft recommends that Coastal Commission staff, local planners, and project applicants **address the cumulative impacts and regional contexts of planning and permitting decisions**, and notes the importance of providing **mitigation of unavoidable public coastal resource impacts**²⁹ to maximize protection of public access, recreation, and sensitive coastal resources. There may be lessons learned from existing regional mitigation efforts that the Coastal Commission could apply to Local Coastal Programs. Some regional mitigation efforts to consider include the San Diego Association of Governments' (SANDAG) Environmental Mitigation Program,³⁰ the Santa Monica Mountains Conservancy, and the Big Sur Transfer of Development Credits program.

(7) Investigate opportunities for regional monitoring programs: Steps 4 and 5 of the Draft's Planning Process for Coastal Development Permits require monitoring.³¹ The Final Draft could explain the benefits of consistent monitoring practices and encourage a regional monitoring approach that supports a more nuanced understanding of individual and cumulative project impacts across a broader geographic scale (e.g., littoral cells, biogeographical regions). This information could also contribute to Coastal Commission staff's understanding of how new projects could be designed to avoid or minimize impacts. The monitoring approach used for California's Marine Protected Areas network could provide one model for a regional monitoring program for Coastal Development Permits. It would be important for the Coastal Commission to explore and identify mechanisms to make such a monitoring program self-enforcing, minimizing costs associated with running the program and ensuring its consistent implementation over time.

²⁷ Suzanne Langridge, Eric Hartge, Erin Prahler, Meg Caldwell, Mary Ruckelshaus & Anne Guerri, *The Role of Natural Habitat in Coastal Vulnerability and Adaptation Planning within the Santa Cruz Region* (prepared for the Santa Cruz Integrated Regional Water Management Plan and on file with the Center for Ocean Solutions) (2013); Langridge, S., E. Hartge, R. Clark, K. Arkema, G. Verutes, E. Prahler, S. Stoner-Duncan, A. Abeles, M. Caldwell, A. Guerri, M. Ruckelshaus. Key lessons for incorporating natural capital into coastal climate adaptation planning and implementation. *Ocean and Coastal Management* (submitted).

²⁸ Climate Change Handbook for Regional Water Planning at 47, *supra* note 26.

²⁹ Draft Guidance at 26.

³⁰ See San Diego Association of Governments' (SANDAG) Environmental Mitigation Program, available at <http://www.sandag.org/index.asp?projectid=263&fuseaction=projects.detail>.

³¹ Draft Guidance at 79-81.

(8) LCP Vulnerability Analysis: The Draft references design constraints for parcels identified through LCP vulnerability analysis.³² The Draft also provides a Sea-Level Rise Adaptation Planning Process for new and updated LCPs.³³ This process could include assessment of the benefits of existing coastal resources and/or potential opportunities to restore coastal resources. As noted above, analyses of the role natural habitats play in coastal protection have already been completed for the Greater Monterey County and Santa Cruz Integrated Regional Water Management planning processes.³⁴ Thus, we know that such an approach is feasible and produces actionable information for coastal community planners and decisionmakers.

(9) Adaptation Measures: The Draft identifies potential adaptation measures for use in coastal development permitting and planning efforts.³⁵ The Tables could include examples of both ‘model’ LCPs with these adaptation measures already in place, and examples of these adaptation measures currently in use in California, wherever available; tangible examples would increase the impact and utility of these Tables.

- **Living Shoreline Techniques:** The Draft refers to soft armoring techniques, including living shorelines.³⁶ The Final Draft’s definition of “living shoreline”³⁷ could more clearly explain its role in implementing the policy of enhancing the “natural resource areas, and dune restoration.” Living shorelines as an approach should preference designs that foster natural processes.³⁸

³² *Id.* at 79.

³³ *Id.* at 38.

³⁴ Katie Arkema, Meg Caldwell, Anne Guerry, Eric Hartge, Suzanne Langridge, Erin Prahler, Mary Ruckelshaus & Gregg Verutes, *The Role of Natural Habitat in Coastal Vulnerability and Adaptation Planning within the Greater Monterey County Region* (2012) (available as app. K in *Integrated Regional Water Management Plan for the Greater Monterey County Region* (2013)); Suzanne Langridge, Eric Hartge, Erin Prahler, Meg Caldwell, Mary Ruckelshaus & Anne Guerry, *The Role of Natural Habitat in Coastal Vulnerability and Adaptation Planning within the Santa Cruz Region* (prepared for the Santa Cruz Integrated Regional Water Management Plan) (2013)); Langridge, S., E. Hartge, R. Clark, K. Arkema, G. Verutes, E. Prahler, S. Stoner-duncan, A. Abeles, M. Caldwell, A. Guerry, M. Ruckelshaus. Key lessons for incorporating natural capital into coastal climate adaptation planning and implementation. *Ocean and Coastal Management* (submitted).

³⁵ Draft Guidance at 148.

³⁶ *Id.* at 155.

³⁷ *Id.* at 6, 25, 53, 152, 154, 155.

³⁸ *Id.* at 154.

- **Rolling Public Trust:** The Draft refers applicants to the State Lands Commission when public trust lands might be involved in project proposals.³⁹ Table 26 refers to both the *Titus 2011 Primer* and *No Day at the Beach* as resources for assessing adaptation measures, in particular rolling easements.⁴⁰ The Final Draft could also reference these two resources when it directs applicants to the State Lands Commission for public trust lands.⁴¹ These resources discuss the rolling public trust supported by California case law. The Final Draft could also reference California case law, which elucidates the breadth of the state’s public trust doctrine.⁴²

We commend the Commission on its efforts to make the state’s broader climate change response strategy actionable.⁴³ The Center encourages a statewide discussion focused on a common framework that guides coordination among all agencies⁴⁴ charged with coastal adaptation planning. Such an approach would align with California’s goal of improving cross agency coordination, as discussed in the *Governor’s Environmental Goals and Policy Report*.⁴⁵ In order to carry out this goal, a key action identified in the *Report* is coordination of long-term planning processes.⁴⁶ For example, state agencies could prioritize and coordinate conservation of already designated areas within their respective jurisdictions, such as Marine Protected Areas, Environmentally Sensitive Habitat Areas, Areas of Special Biological Significance, and Essential Fish Habitat.

Even absent a statewide agency framework, the Coastal Commission can prioritize opportunities to model adaptation strategies described in the Draft with sister agencies that directly control coastal lands and infrastructure. State agencies own and control a sizable portion of California’s coastline. The California Department of Parks and Recreation alone is responsible for almost one-third of the coast.⁴⁷ In addition, recent state legislation requires “local trustees” of state tidelands to prepare assessments of how they intend to address sea-level rise,⁴⁸ providing an opportunity to deepen collaboration among the Coastal Commission, the California State Lands Commission, and local trustees (i.e., local jurisdictions).

³⁹ *Id.* at 73.

⁴⁰ *Id.* at 165.

⁴¹ *Id.* at 73.

⁴² *Lechuza Villas West v. Cal. Coastal Comm’n*, 70 Cal. Rptr. 2d 399-404 (Ct App. 1997).

⁴³ *Draft Guidance* at 3.

⁴⁴ Examples of the agencies charged with coastal adaptation include: California Coastal Commission, State Lands Commission, Insurance Commission, California Department of Transportation, California Department of Parks and Recreation, California Energy Commission, Coastal Conservancy, California Emergency Management Agency, and the California Governor’s Office of Emergency Services.

⁴⁵ *Draft Governor’s Report* at 34.

⁴⁶ *Id.*

⁴⁷ California Department of Parks and Recreation, About Us, *available* http://www.parks.ca.gov/?page_id=91.

⁴⁸ A.B. 691 (Muratsuchi). St. Assemb., Reg. Sess. (Cal. 2013).

In closing, the Center for Ocean Solutions appreciates the opportunity to submit comments on the *California Coastal Commission Draft Sea-Level Rise Policy Guidance* dated October 14, 2013, and looks forward to the important discussions the Draft Policy Guidance will inspire.

Sincerely,

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Meg Caldwell
Executive Director
Center for Ocean Solutions

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